

JAP20 Rec'd PCT/PTO 09 JUN 2006

Sequence Listing

SEQ ID NO. 1 - The full-length nucleotide sequence of the spike (S) gene of SARS CoV, clone 12 of 2774 strain
RNA linear

ORGANISM: SARS coronavirus 2774 strain

Viruses; ssRNA positive-strand viruses, no DNA stage;
Nidovirales; Coronaviridae; Coronavirus.

1 atgtttat ttcttattt tcttaactctc actagtggta gtgacccgtga ccgggtgcacc
acttttgatg 70 71 . atgttcaagc tcctaattac actcaacata cttcatctat gaggggggtt
tactatccgt atgaaattt 140 141 tagatcagac actctttatt taactcgagg tttatctctt
ccattttatt ctaatgttac agggttcat 210 221 actattaatc atacgtttgg caaccctgtc
atacctttta aggatggtat ttatTTGCT gccacagaga 280 281 aatcaaatgt tgtccgtgg
tgggttttg gttctaccat gaacaacaag tcacagtcgg tgattattat 350 351 taacaattct
actaatgttg ttatacggc atgttaacttt gaattgtgtg acaaccctt ctttgctgtt 420 421
tctaaaccca tgggtacaca gacacatact atgatattcg ataatgcatt taattgcact ttgcgtaca
490 491 tatctgatgc cttttcgctt gatgtttcag aaaagtccgg taatTTaaa cacttacgag
agtttgcgtt 560 561 taaaaataaa gatgggttgc tctatgttta taagggctat caacctata
atgttagttcg tgatctacct 630 631 tctggTTTA acacttgaa accttatttt aagttgcctc
ttgttattaa cattacaat tttagagcca 700 701 ttcttacagc cttttcacct gctcaagaca
tttggggcac gtcagctgca gcctattttg ttggcgattt 770 771 aaagccaact acatttatgc
tcaagtatga tgaaaatgtt acaatcacag atgctgttga ttgttctcaa 840 841 aatccacttg
ctgaactcaa atgctctgtt aagagctttg agattgacaa aggaatttac cagacctcta 910 911
atttcagggt tggTCCCTCA ggagatgttg tgagattccc taatattaca aacttgtgtc cttttggaga
980
981 ggTTTTaaat gctactaaat tcccttctgt ctatgcatttgg gagagaaaaaa aaatttctaa
ttgtgttgc 1050 1051 gattactctg tgctctacaa ctcaacagg tttcaacct ttaagtgtca
tggcgTTTct gccactaaat 1120 1121 tgaatgtatct ttgcttctcc aatgtctatg cagattctt
tgtagtcaag ggagatgttga taagacaaat 1190 1191 agcGCCAGGA caaactgggtt ttattgctga
ttataattat aaattgccag atgatttcat gggttgcgtc 1260 1261 cttgcttgaa atactaggaa
cattgtatgc acttcaactg gtaattataa ttataaataat aggtatctt 1330 1331 gacatggcaa
gcttagggccc ttggagagag acatatctaa tggccttgc tccccctgtatgc gcaaaccttgc 1400 1401
cacccccaccc gctcttaattt gttatggcc attaaatgtat tatggTTTT acaccactac tggcattggc
1470 1471 taccacccctt acagagttgt agtactttct tttgaacttt taaatgcacc ggccacgggtt
tgggaccaa 1540 1541 aattatccac tgaccttattt aagaaccagt gtgtcaattt taatTTaaat
ggactctactg gtactgggtt 1610 1611 gttaactctt tcttcaaaaga gatttcaacc atttcaacaa
tttggccgtt atgtttctga ttctactgtat 1680 1681 tccggtcggat atcctaaaac atctgaaata
ttagacattt caccttgc ttttgggggtt gtaagtgtaa 1750 1751 ttacacctgg aacaaatgtt
tcatctgaag ttgctgttctt atatcaagat gttaactgca ctgatgtttc 1820 1821 tacagcaatt
catgcagatc aacttcacacc agcttggcgc atatattctt ctggaaacaa tggatccag 1890 1891
actcaagcag gctgtttt ataggactgag catgtcgaca cttcttatttga gtgcgacatt cctattggag
1960 1961 ctggcattttg tgcttagttac catacagg ttttattacg tagtactatgc caaaaatctt
ttgtggctta 2030 2031 tactatgtct ttaggtgtt atagttcaat tgcttactctt aataacacca
ttgctataacc tactaacttt 2100 2101 tcaatttagca ttactacaga agtaatgcctt gtttctatgg
ctaaaacccc cgttagattt aatatgtaca 2170 2171 tctgcggaga ttctactgaa tggatccat
tgcttctcca atatggtagc ttttgcacac aactaaatcg 2240 2241 tgcactctca ggtattgctg
ctgaacagga tcgcaacaca cgtgaagtgt tcgctcaagt taaacaaatg 2310 2311 tacaacaccc

caactttgaa atattttgtt ggttttaatt tttcacaaat attacctgac cctctaaagc 2380 2381
 caactaagag gtcttttatt gaggactgc tcttaataa ggtgacactc gctgatgctg gcttcatgaa
 2450 2451 gcaatatggc gaatgcctag gtgatattaa tgcttagagat ctcatgttg cgccagaagtt
 caatggactt 2520 2521 acagtgtgc cacctctgtc cactgatgat atgattgctg cctacactgc
 tgctctagtt agtggactg 2590 2591 ccactgctgg atggacattt ggtgctggcg ctgctttca
 aataccctt gctatgaaa tggcatatag 2660
 2661 gttcaatggc attggagttt cccaaaaatgt tctctatgag aacccaaaac aaatcgccaa
 ccaatttaac 2730 2731 aaggcgatta gtcaaattca agaatcactt acaacaacat caactgcatt
 gggcaagctg caagacgtt 2800 2801 ttaaccagaa tgctcaagca ttaaacacac ttgttaaaca
 acttagctt aattttgtt caatttcaag 2870 2871 tgctgctaaat gatatcctt cgcgacttga
 taaagtgcag gcccgggtac aaattgcacag gttaaattaca 2940 2941 ggcagacttc aaaggcttca
 aacctatgta acacaacaac taatcaggc tgctgaaatc agggcttctg 3010 3011 ctaatcttgc
 tgctactaa atgtctgagt gtgttctgg acaatcaaaa agagttgact tttgtgaaa 3080 3081
 gggctaccac cttatgtcct tccccacaagc agcccccgtt ggtgttgc tccatcatgt cacgtatgc
 3150 3151 ccatcccagg agaggaacctt caccacagcg ccagcaattt gtcataaggc caaagcatac
 ttccctcgtt 3220 3221 aagggtttt tggtttaat ggcaatttctt ggtttattac acagaggaac
 ttctttctc cacaataat 3290 3291 tactacagac aatacatttgc tctcaggaaa ttgtgatgtc
 gttattggca tcattaacaa cacagtttat 3360 3361 gatcctctgc aacctgagct tgactcattc
 aaagaagagc tggacaagta cttccaaaat catacatcac 3430 3431 cagatgtga tcttggcgac
 atttcaggca ttaacgcctt tgcgtcaac attccaaaag aaattgaccg 3500 3501 cctcaatgag
 gtcgctaaaa atttaaatga atcactcatt gaccccaag aattggaaa atatgagcaa 3570 3571
 tatattaaat ggccttggta tggttggctt ggcttcattt ctggactaat tgccatcgatc atggttacaa
 3640 3641 tcttgctttt ttgcattgact agttgtgca gttgcctcaa gggtgcatgc tcttgggtt
 cttgctgcaa 3710 3711 gtttgcattgact agccagtttca caagggtgtc aaattacatt
 acaca 3765

SEQ ID NO. 2 - The full-length amino acid sequence of the spike (S)
 gene of SARS CoV, clone 12 of 2774 strain
 Amino acid

1 MFIFLLFLTL TSGSDLDRCT TFDDVQAPNY TQHTSSMRGV YYPDEIFRSD TLYLTQDLSL
 PFYSNVTGFH 70
 71 TINHTFGNPV IPFKDGFIYFA ATEKSNVVRC WVFGSTMNNK SQSVIIINNS TNVVIRACNF
 ELCDNPPFAV 140
 141 SKPMGTQHT MIFDNAFNCT FEYISDAFSL DVSEKSGNFK HLREFVFKNK DGFLYVYKGY
 QPIDVVRDLP 210
 211 SGFNTLKPPIF KLPLGINITN FRAILTAFSP AQDIWGTSAAYFVGDLKPT TFMLKYDENG
 TITDAVDCSQ 280
 281 NPLAELKCSV KSFEIDKGIY QTSNFRVVPS GDVVRFPNIT NLCPFGEVFN ATKFPSVYAW
 ERKKISNCVA 350 351 DYSVLYNSTV FSTFKCYGVS ATKILNDLCFS NVYADSFVVK GDDVRQIAPG
 QTGVIADYN YKLPPDFMGCV 420 421 LAWNTRNIDA TSTGNYNYKY RYLRHGKLKP FERDISNVPE
 SPDGKPCTPP ALNCYWPLND YGFYTTTGIG 490 491 YQPYRVVVLS FELLNAPATV CGPKLSTD
 KNQCVNFNFN GLTGTGVLP SSKRFPQQ FGRDVSDFTD 560 561 SVRDPKTSEI LDISPCSF
 VSVITPGTNA SSEVAVLYQD VNCTDVSTAI HADQLTPAWR IYSTGNVQF 630 631 TQAGCLIGAE
 HVDTSYECDI PIGAGICASY HTVSLLRSTS QKSIVAYTMS LGADSSIAYS NNTIAIPTNF 700 701
 SISITTEVMP VSMAKTSVDC NMYICGDSTE CANLLLQYGS FCTQLNRALS GIAAEQDRNT REVFAQVKQM
 770 771 YKTPTLKYFG GFNFSQILPD PLKPTKRSFI EDLLFNKVTL ADAGFMKQYG ECLGDINARD

LICAQKFNGL 840 841 TVLPPLLTDD MIAAYTAALV SGTATAGWTF GAGAALQIPF AMQMAYRFNG
IGVTQNVLYE NQKQIANQFN 910 911 KAISQIQESL TTTSTALGKL QDVVNQNAQA LNTLVQLSS
NFGAISSVNL DILSRLDKVE AEVQIDRLIT 980 981 GRLQSLQTYV TQQLIRAAEI RASANLAATK
MSECVLGQSK RVDFCGKGYH LMSFPQAAPH GVVFVHTYA 1050 1051 PSQERNFTTA PAICHEGKAY
FPREGVFVFN GTSWFITQRN FFSPQIITD NTFVSGNCVD VIGIINNTVY 1120
1121 DPLQPELDNF KEELDKYFKN HTSPDVDLGD ISGINASVNN IQKEIDRLNE VAKNLNESLI
DLQELGKYEQ 1190 1191 YIKWPWVYWL GFIAGLIAIV MVILLCCMT SCGSCLKGAC SCGSCKFDE
DDSEPVLKGV KLHYT 1255

SEQ ID NO. 3 - The nucleotide sequence of SΔ10 fragment of the spike (S) gene of SARS CoV, clone 12 of 2774 strain

3087 taccaccta tgtccttccc acaaggcagcc ccgcattggtg ttgtcttcct acatgtcact
tatgcgcat 3157 3158 cccaggagag gaacttcacc acagcgccag caatttgtca tgaaggcaaa
gcatacttcc ctcgtgaagg 3227 3228 tggtttgtt ttaatggca cttctgggtt tattacacag
aggaacttct tttctccaca aataattact 3297 3298 acagacaata catttgtctc agggaaattgt
gatgtcgta ttggcatcat taacaacaca gtttatgatc 3367 3368 ctctgcaacc tgagcttgac
tcattcaaag aagagctgga caagtacttc aaaaatcata catcaccaga 3437 3438 tgttgatctt
ggcgacattt caggcattaa cgcttctgtc gtcaacattc aaaaagaaaat tgaccgcctc 3507 3508
aatgaggtcg ctaaaaattt aaatgaatca ctcattgacc ttcaagaatt gggaaaaatata gagcaatata
3577
3578 tta
3581

SEQ ID NO. 4 - The amino acid sequence of SΔ10 fragment of the spike (S) gene of SARS CoV, clone 12 of 2774 strain

1029 YHLMSPQAA PHGVVFLHVT YAPSQERNFT TAPACHEGK AYFPREGVFV FNGTSWFITQ
RNFFSPQIIT 1099 1100 TDNTFVSGNC DVVIGIINNT VYDPLQPELD SFKEELDKYF KNHTSPDVD
GDISGINASV VNIQKEIDRL 1169 1170 NEVAKNLNES LIDLQELGKY EQYI
1192

SEQ ID NO. 5 - The amino acid sequence of the neutralizing fragment of the spike (S) gene of SARS CoV, clone 12 of 2774 strain

1055 RNFT TAPACHEGK AYFPREGVFV FNGTSWFITQ RNFFSPQIIT TDNTFVSGNC DVVIGIINNT
VYDPLQ 1620 1621 PELDSFKEELDKYF KNHTSPDVDL GDISGINASV VNIQKEIDRL NEVAKNLNES
LIDLQELGKY EQYI 1192

SEQ ID NO. 6 - The amino acid sequence of SΔ11 fragment of the spike (S) gene of SARS CoV, clone 12 of 2774 strain

1 MFIFLLFLTL TSGSDLDRCT TFDDVQAPNY TQHTSSMRGV YYPDEIFRSD TLYLTQDLSL
PFYSNVTGFH 70
71 TINHTFGNPV IPFKDGIYFA ATEKSNNVRG WVFGSTMNNK SQSVIIINNS TNVVIRACNF
ELCDNPFFAV 140
141 SKPMGTQHT MIFDNAFNCT FEYISDAFSL DVSEKSGNFK HLREFVFKNK DGFLYVYKGY
QPIDVVRDLP 210

211 SGFNTLKPIF KLPLGINITN FRAILTAFSP AQDIWGTSA AYFVGDLKPT TFMLKYDENG
TITDAVDCSQ 280

281 NPLAELKCSV KSFEIDKGIY QTSNFRVVPS GDVVRFPNIT NLCPFGEVFN ATKFPSVYAW
ERKKISNCVA 350 351 DYSVLYNSTV FSTFKCYGVS ATKLNDLCFS NVYADSFVVK GDDVRQIAPG
QTGVIADNY KLPDDFMGCV 420 421 LAWNTRNIDA TSTGNYNKY RYLRHGKL RP FERDISNVPF
SPDGKPCTPP ALNCYWPLND YGFYTTTGIG 490 491 YQPYRVVVL S FELLNAPATV CGPKLSTDLI
KNQCVNFNFN GLTGTGVLT P SSKRQPFQQ FGRDVSDFTD 560 561 SVRDPKTSEI LDISPCSF GG
VSVITPGTNA SSEVAVLYQD VNCTDVSTAI HADQLTPAWR IYSTGNVFO 630 631 TQAGCLIGAE
HVDTSYEC DI PIGAGICASY HTVSLLRSTS QKSIVAYTMS LGADSSIAYS NNTIAIPTNF 700 701
SISITTEVMP VSMAKTSVDC NMYICGDSTE CANLLLQYGS FCTQLNRALS GIAAEQDRNT REVFAQVKQM
770 771 YKTP TLKYFG GFNFSQILPD PLKPTKRSFI EDLLFNKVTL ADAGFMKQYG ECLG DINARD
LICAQKFNGL 840 841 TVLPPLLTDD MIAAYTAALV SGTATAGWTF GAGAALQIPF AMQMAYRFNG
IGVTQNVLYE NQKQIANQFN 910 911 KAISQIQESL TTTSTALGKL QDVVNQNAQA LNTLVKQLSS
NFGAISSVNL DILSRLDKVE AEVQIDRLIT 980 981 GRLQSLQTYV TQQLIRAAEI RASANLAATK
MSECVLGQSK RVDFCGKGYH LMSFPQAAPH GVVFLHVTYA 1050 1051 PSQERNFTTA PAICHEGKAY
FPREGVFVN GTSWFITQRN FFSPQIITTD NTFVSGNCDV VIGIINNTVY 1120

1121 DPLQPELDSF KE

1132